

## 2.2. Normal Curves - Activity

The purpose of this activity is to connect two ways for how we can find the proportion of a specific interval under a density curve: using geometry to estimate an area and using a graphing calculator to get an accurate proportion.

We will see how close our estimates were to the actual proportions. Let's start with extra-large eggs.

Using the blank normal curves on the following pages, determine areas by shading in the rectangle under the density curve for a specific interval.

1. Estimate the area of the interval under the density curve. The formula would look like:

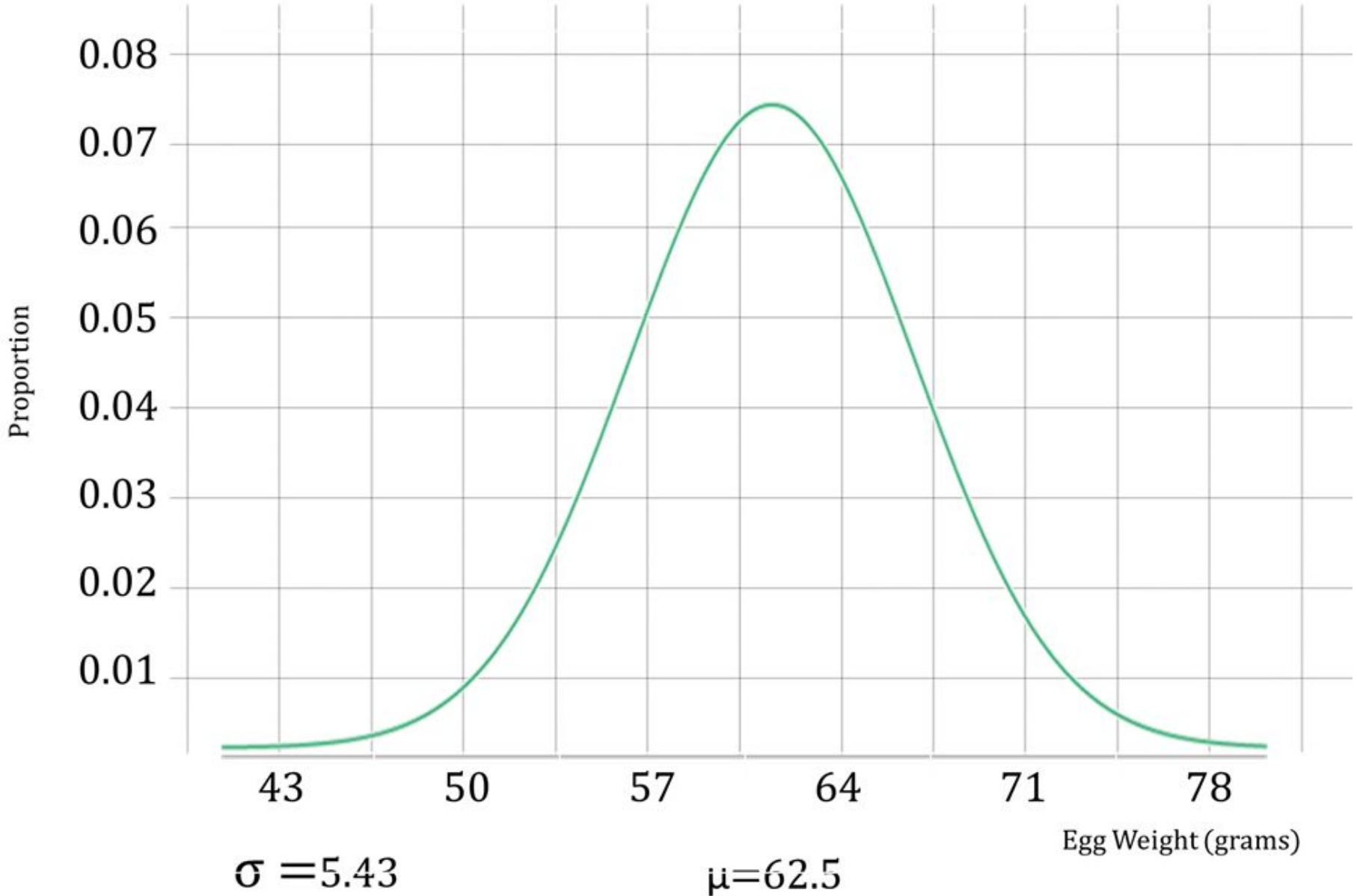
$$\frac{\text{\# of boxes in the interval}}{\text{\# of boxes under the entire density curve}}$$

2. Calculate the proportion using a graphing calculator.
3. Compare the two answers. How close is your estimate to the actual proportion?

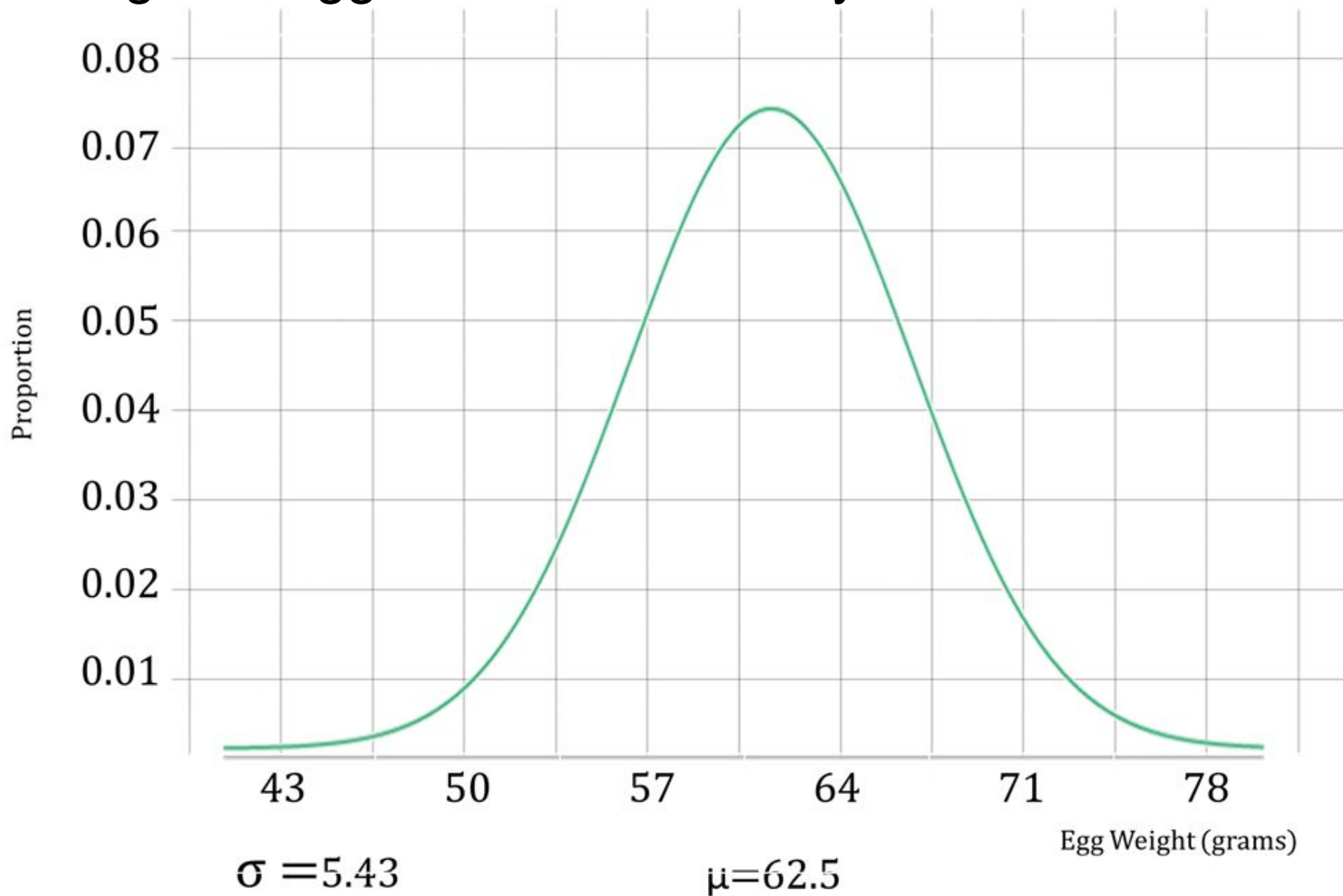
### Egg Weight Intervals

|             |         |
|-------------|---------|
| Peewee      | 29 - 36 |
| Small       | 36 - 43 |
| Medium      | 43 - 50 |
| Large       | 50 - 57 |
| Extra Large | 57 - 64 |
| Super XL    | 64 - 71 |
| Jumbo       | 71 - 78 |
| Super Jumbo | 78 - 85 |

## 2.2. Figure 1: The Normal Density Curve for the Weight of Eggs at Pete and Gerry's Farm.



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